Insulation Workers

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Significant Points

- Workers must follow strict safety guidelines to protect themselves from the dangers of insulating irritants.
- Most insulation workers learn their work informally on the job; others complete formal apprenticeship programs.
- Job opportunities in the occupation are expected to be excellent.

Nature of the Work

Properly insulated buildings reduce energy consumption by keeping heat in during the winter and out in the summer. Refrigerated storage rooms, vats, tanks, vessels, boilers, and steam and hot-water pipes also are insulated to prevent the wasteful transfer of heat. Insulation workers install the materials used to insulate buildings and equipment.

Insulation workers cement, staple, wire, tape, or spray insulation. When covering a steampipe, for example, insulation workers measure and cut sections of insulation to the proper length, stretch it open along a cut that runs the length of the material, and slip it over the pipe. They fasten the insulation with adhesive, staples, tape, or wire bands. Sometimes, they wrap a cover of aluminum, plastic, or canvas over the insulation and cement or band the cover in place. Insulation workers may screw on sheet metal around insulated pipes to protect the insulation from weather conditions or physical abuse.

When covering a wall or other flat surface, workers may use a hose to spray foam insulation onto a wire mesh that provides a rough surface to which the foam can cling and that adds strength to the finished surface. Workers may then install drywall or apply a final coat of plaster for a finished appearance.

In attics or exterior walls of uninsulated buildings, workers blow in loose-fill insulation. A helper feeds a machine with fiberglass, cellulose, or rock-wool insulation, while another worker blows the insulation with a compressor hose into the space being filled.

In new construction or on major renovations, insulation workers staple fiberglass or rock-wool batts to exterior walls and ceilings before drywall, paneling, or plaster walls are put in place. In making major renovations to old buildings or when putting new insulation around pipes and industrial machinery, insulation workers often must first remove the old insulation. In the past, asbestos—now known to cause cancer in humans-was used extensively in walls and ceilings and to cover pipes, boilers, and various industrial equipment. Because of this danger, U.S. Environmental Protection Agency regulations require that asbestos be removed before a building undergoes major renovations or is demolished. When asbestos is present, specially trained workers must remove the asbestos before insulation workers can install the new insulating materials. (See the statement on hazardous materials removal workers elsewhere in the *Handbook*.)

Insulation workers use common handtools—trowels, brushes, knives, scissors, saws, pliers, and stapling guns. They use power saws to cut insulating materials, welding machines to join sheet metal or secure clamps, and compressors to blow or spray insulation.

Working Conditions

Insulation workers generally work indoors. They spend most of the workday on their feet, either standing, bending, or kneeling. Sometimes, they work from ladders or in tight spaces. The work requires more coordination than strength. Insulation work often is dusty and dirty, and the summer heat can make the insulation worker very uncomfortable. Minute particles from insulation materials, especially when blown, can irritate the eyes, skin, and respiratory system. Workers must follow strict safety guidelines to protect themselves from the dangers of insulating irritants. They keep work areas well ventilated; wear protective suits, masks, and respirators; and take decontamination showers when necessary.

Employment

Insulation workers held about 53,000 jobs in 2002. The construction industry employed 4 out of 5 workers; most worked for building finishing contractors. Small numbers of insulation workers held jobs in the Federal Government, in wholesale trade, and in shipbuilding and other manufacturing industries that have extensive installations for power, heating, and cooling. Most worked in urban areas. In less populated areas, carpenters, heating and air-conditioning installers or drywall installers may do insulation work.

Training, Other Qualifications, and Advancement

Most insulation workers learn their trade informally on the job, although some complete formal apprenticeship programs. For entry-level jobs, insulation contractors prefer high school graduates who are in good physical condition and licensed to drive. High school courses in blueprint reading, shop mathematics, science, sheet metal layout, woodworking, and general construction provide a helpful background. Applicants seeking apprenticeship positions should have a high school diploma or its equivalent and be at least 18 years old.

Trainees who learn on the job receive instruction and supervision from experienced insulation workers. Trainees begin with simple tasks, such as carrying insulation or holding material while it is fastened in place. On-the-job training can take up to 2 years, depending on the nature of the work. A certification program is being developed by insulation contractor organizations to help all workers prove their skills and knowledge. Learning to install insulation in homes generally requires less training than does learning to apply insulation in commercial and industrial settings. As they

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gain experience, trainees receive less supervision, more responsibility, and higher pay.

In contrast, trainees in formal apprenticeship programs receive indepth instruction in all phases of insulation. Apprenticeship programs may be provided by a joint committee of local insulation contractors and the local union of the International Association of Heat and Frost Insulators and Asbestos Workers, to which many insulation workers belong. Programs normally consist of 4 years of on-the-job training coupled with classroom instruction, and trainees must pass practical and written tests to demonstrate their knowledge of the trade.

Skilled insulation workers may advance to supervisor, shop superintendent, or insulation contract estimator, or they may set up their own insulation business.

Job Outlook

Job opportunities are expected to be excellent for insulation workers. Because there are no strict training requirements for entry, many people with limited skills work as insulation workers for a short time and then move on to other types of work, creating many job openings. In addition, many potential workers may prefer work that is less strenuous and that has more comfortable working conditions. Other opportunities will arise from the need to replace workers who leave the labor force.

In addition to opening up as a result of replacement needs, new jobs will arise as employment of insulation workers increases about as fast as the average for all occupations through the year 2012, due to growth in residential and nonresidential construction. Demand for insulation workers will be spurred by continuing concerns about the efficient use of energy to heat and cool buildings, resulting in increased demand for these workers in the construction of new residential, industrial, and commercial buildings. In addition, renovation and efforts to improve insulation in existing structures will increase demand.

Insulation workers in the construction industry may experience periods of unemployment because of the short duration of many construction projects and the cyclical nature of construction activity. Workers employed in industrial plants generally have more stable employment because maintenance and repair must be done on a continuing basis. Most insulation is applied after buildings are enclosed, so weather conditions have less effect on the employment of insulation workers than on that of some other construction occupations.

Earnings

In 2002, median hourly earnings of insulation workers were $13.91. The middle 50 percent earned between $10.58 and $18.36. The lowest 10 percent earned less than $8.45, and the highest 10 percent earned more than $26.29. Median hourly earnings in the industries employing the largest numbers of insulation workers in 2002 are shown in the following tabulation:

Building equipment contractors	$15.30
Building finishing contractors	12.97

Union workers tend to earn more than nonunion workers. Apprentices start at about one-half of the journey worker's wage. Insulation workers doing commercial and industrial work earn substantially more than those working in residential construction, which does not require as much skill.

Related Occupations

Insulation workers combine their knowledge of insulation materials with the skills of cutting, fitting, and installing materials. Workers in occupations involving similar skills include carpenters; carpet, floor, and tile installers and finishers; drywall installers, ceiling tile installers, and tapers; roofers; and sheet metal workers.

Sources of Additional Information

For information about training programs or other work opportunities in this trade, contact a local insulation contractor, the nearest office of the State employment service or apprenticeship agency, or either of the following organizations:

➤ National Insulation Association, 99 Canal Center Plaza, Suite 222, Alexandria, VA 22314. Internet: **http://www.insulation.org/**

➤ Insulation Contractors Association of America, 1321 Duke St., Suite 303, Alexandria, VA 22314. Internet: **http://www.insulate.org**